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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,580	12/21/2001	Sunil K. Gupta	29250-000550	1242

30594 7590 03/15/2006

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EXAMINER	
VO, HUYEN X	
ART UNIT	**PAPER NUMBER**
2655	

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/027,580	GUPTA, SUNIL K.	
	Examiner	Art Unit	
	Huyen X. Vo	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-2, 7-11, 13-14, and 19-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,7-11,13,14,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/21/2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant has submitted an amendment, filed 12/22/2006, while arguing to traverse prior art rejection based on an amended limitation regarding extracting speech features from received input speech signal for speech recognizer (*referring to pages 7-8 of the response*). Applicant argues that feature extraction, which was cited in the last non-final Office Action mailed 9/29/2005 as an inherent feature in a speech recognition system, is not inherently included in Rozak (*first paragraph on page 8 of the response*). Applicant's argument has been fully considered, but it is not persuasive. Even though Rozak does not explicitly disclose a preprocessing step that processes and extracts speech features from the input speech signal for a speech recognizer, one of ordinary skill in the speech recognition art would readily realize that in order for a speech recognition system to perform speech recognition on the received input speech signal, speech features or parameters (e.g. cepstrum, pitch information, spectral information...) would have been extracted before comparing against pre-existing speech recognition models, which were developed beforehand using speech features or parameters. Rozak teaches a client device having speech recognition capability. So, in order for the speech recognizer in the client device to recognize input speech, speech features would have to be extracted and processed before comparing with existing speech models stored the speech recognizer. Examiner is not aware of any existing speech recognition system that compares received speech signal with stored models without undergone speech processing and speech feature extraction. Also, the process of transforming a

continuous analog speech signal into a digital representation can also be considered as feature extraction because a different representation of the input speech signal is derived or extracted from the continuous speech signal spoken by the user. And system in the prior art teaches the step of converting a continuous analog speech signal into a digital signal understood by the computing device. Therefore, examiner maintains previous ground of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Rozak (US 6363347).

4. Regarding claim 1, Rozak discloses a method of recognizing speech so as to modify a currently active vocabulary, comprising: receiving an utterance from a user (*microphone 8 in figure 4A*), wherein receiving includes extracting only information in said received utterance necessary for recognition at a client device that is receiving the utterance (*features extraction is inherently included in a speech recognition system, front-end processing step operated on the input speech extracting essential speech*

features for use by the speech recognizer); comparing said received utterance to a stored recognition vocabulary representing a currently active vocabulary (*recognizing utterance in step 3 in figure 5A*); and dynamically modifying the stored recognition vocabulary based on said comparison to improve recognition accuracy for a subsequently received utterance (*col. 2, lines 19-24*), wherein said dynamically modifying includes enabling the user to create a replacement command word that is stored in the stored recognition vocabulary as a replacement command word corresponding to the received utterance, where the user's utterance was not recognized due to the user's accent or other user-specific speech feature (*the operation of figure 9 and/or referring to col. 9, lines 26-44*).

5. Regarding claim 2, Rozak further discloses the method of claim 1, wherein the received utterance is received in a voiced dialog from the user (*referring to figure 4A*), and the step of dynamically modifying the stored recognition vocabulary is based on a current state of user interaction in the voice dialog and on a recognition result (*the operation of figure 9 and/or referring to col. 9, lines 26-44*).

6. Regarding claim 7, Rozak further discloses the method of claim 1, said step of comparing including comparing a speech template representing said received utterance to said stored recognition vocabulary (*inherent in a speech recognition system*).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 8-11, 14, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hedin et al. (US 6185535) in view of Rozak (US 6363347).

9. Regarding claim 8, Hedin et al. disclose a speech recognition system, comprising: a client device receiving an utterance from a user (*microphone 215 in figure 3*), the client device extracting only information in said received utterance necessary for recognition (*features extraction is inherently included in a speech recognition system, front-end processing step operated on the input speech extracting essential speech features for use by the speech recognizer*); a server in communication with the client device (*referring to figures 1a-b and 3*), the client device comparing said received utterance to a stored recognition vocabulary representing a currently active vocabulary (*recognizing utterance in element 227 in figure 2*); and adding new words to or replacing existing words in speech recognition vocabularies of the client device (*col. 11, lines 15-55*).

Hedin et al. fail to specifically disclose the step of dynamically modifying the stored recognition vocabulary based on said comparison to improve recognition accuracy for a subsequently received utterance, wherein said dynamically modifying

includes enabling the user to create a replacement command word that is stored in the stored recognition vocabulary as a replacement command word corresponding to the received utterance, where the user's utterance was not recognized due to the user's accent or other user-specific speech feature.

However, Rozak teaches the step of dynamically modifying the stored recognition vocabulary based on said comparison to improve recognition accuracy for a subsequently received utterance (*col. 2, lines 19-24*), wherein said dynamically modifying includes enabling the user to create a replacement command word that is stored in the stored recognition vocabulary as a replacement command word corresponding to the received utterance, where the user's utterance was not recognized due to the user's accent or other user-specific speech feature (*the operation of figure 9 and/or referring to col. 9, lines 26-44*).

Since Hedin et al. and Rozak are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Hedin et al. by incorporating the teaching of Rozak in order to improve speech recognition accuracy for subsequent speech recognition.

10. Regarding claim 9, Hedin et al. further disclose the step of dynamically modifying of the stored recognition vocabulary is dependent on a current state of user interaction in a voiced dialog of the user that includes the utterance and on a recognition result from the comparison (*col. 7, line 41 to col. 8, line 31*).

11. Regarding claims 10-11 and 14, Hedin et al. further disclose that the client device further including an application configured to dynamically modify the stored recognition vocabulary (*col. 11, lines 11-55*), and further including a processor for comparing a speech template representing the received utterance to said stored recognition vocabulary to obtain a recognition result, wherein the processor controls the client application to modify the stored recognition vocabulary (*col. 11, lines 11-55*), and the server further including a vocabulary builder application configured to dynamically modify the stored recognition vocabulary by sending data to client application (*col. 11, lines 11-55*).

12. Regarding claim 19, Hedin et al. disclose a method of customizing a recognition vocabulary on a device having a current vocabulary of preset voice-activated commands, comprising: wherein receiving includes extracting only information in said received utterance necessary for recognition at a client device that is receiving the utterance (*features extraction is inherently included in a speech recognition system, front-end processing step operated on the input speech extracting essential speech features for use by the speech recognizer*); and updating speech recognition vocabularies by replacing the vocabulary in the reference database of the client device with a complete set of text, audio data and feature vectors supplied through server (*col. 11, lines 41-46*).

Hedin et al. fail to specifically disclose the step of receiving, in response to a given preset voice-activated command previously uttered by a user that was not

recognized by the device due to the user's accent or other user-specific speech feature, a current utterance from the user that is designated to replace the un-recognized preset voice-activated command in the stored recognition memory, and dynamically modifying the recognition vocabulary with the received current utterance. As best interpreted, the claim is limited to replacing an existing speech model associated with a corrected word with a current speech utterance that was misrecognized. And, Rozak teaches the step of replacing an existing speech model associated with a corrected word with a current speech utterance that was misrecognized (*col. 5, lines 56-67*).

Since Hedin et al. and Rozak are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Hedin et al. by incorporating the teaching of Rozak in order to improve speech recognition accuracy for subsequent speech recognition.

13. Regarding claim 20, Rozak further disclose the method of claim 19, the user implementing a speaker-training feature on the device in order to dynamically modify the recognition vocabulary (*col. 9, lines 26-44*).

14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hedin et al. (US 6185535) in view of Rozak (US 6363347), as applied to claim 8, and further in view of Kenevsky et al. (US 6161090).

15. Regarding claim 13, the modified Hedin et al. fail to specifically disclose that the server further including a database storing client-specific data that is updatable by the client device. However, Kenevsky et al. further teach that the server further including a database storing client-specific data that is updatable by the client device (*col. 7, line 8 to col. 8, line 36, user's model*).

Since the modified Hedin et al. and Kenevsky et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Hedin et al. by incorporating the teaching of Kenevsky et al. in order to provide a security level with an arbitrary level of security with speech and speaker recognition technology and natural language understanding. This global architecture has the advantage of being universal and adaptable to substantially any situation.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nassiff et al. (US 6418410) and Hon et al. (US 5963903) are considered pertinent to the claimed invention.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HXV

2/23/2006

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RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER